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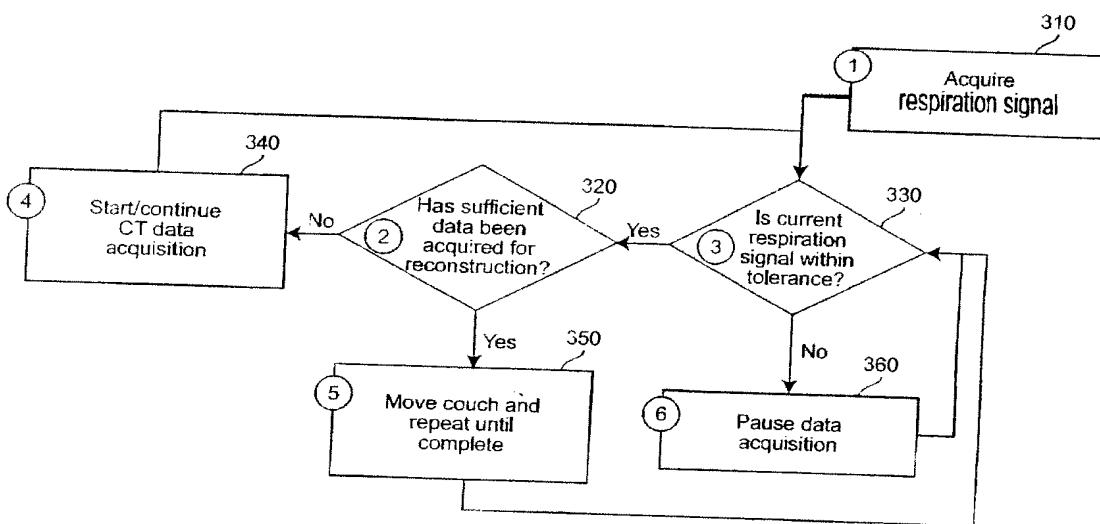
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(54) Title: **METHOD AND SYSTEM OF ADAPTIVE CONTROL FOR REDUCING MOTION ARTIFACTS AND PATIENT DOSE IN FOUR DIMENSIONAL COMPUTED TOMOGRAPHY SCANS**



(57) Abstract: Motion artifacts and patient dose during 4D CT imaging are reduced by adaptive control of data acquisition. The respiration signal and CT data acquisition are linked, such that 'bad' data from erratic breathing cycles that cause artifacts is not acquired by pausing CT data acquisition when erratic breathing is detected, and not resuming CT data acquisition until steady-state respiration is resumed. Training data is used to develop a tolerance envelope for a respiratory signal such that for erratic breathing cycles the respiratory signal is not within the tolerance envelope.